National Institute of Environmental Health Sciences

Morbidity and mortality during heatwaves in metropolitan Adelaide

Author(s): Nitschke M, Tucker GR, Bi P
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Abstract:

Objective: To investigate morbidity and mortality associated with heatwaves in metropolitan Adelaide using ambulance, hospital admission, and mortality data. Design, participants and setting: Case-series study comparing health risks in the Adelaide metropolitan population during heatwaves and non-heatwave periods. Main outcome measures: Daily observations for ambulance transports (1993-2006), hospital admissions (1993-2006), and mortality (1993-2004), categorised using International classification of diseases (ninth and tenth revisions) codes for the relevant disease groups. Results: During heatwaves, total ambulance transport increased by 4% (95% CI, 1%-7%), including significant assault-related increases for people aged 15-64 years. Reductions were observed in relation to cardiac, sports- and falls-related events. Total hospital admissions increased by 7% (95% CI, -1% to 16%). Total mental health admissions increased by 7% (95% CI, 1%-13%), and total renal admissions by 13% (95% CI, 3%-25%). Ischaemic heart disease admissions increased by 8% (95% CI, 1%-15%) among people aged 65-74 years. Total mortality, disease- and age-specific mortality did not increase, apart from a small increase in mental health-related mortality in people aged 65-74 years. Significant decreases were observed in cardiovascul-arrelated mortality. Conclusion: In contrast to evidence from extreme heatwaves in the northern hemisphere, we found no excess mortality during heatwaves in metropolitan Adelaide, perhaps because of adaptive behaviour to regular hot weather spells. Projected temperature increases and evidence of modest increases in morbidity during heatwaves indicate the need for a heatwave response plan for Adelaide.

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Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Temperature

Temperature: Extreme Heat

Geographic Feature:

resource focuses on specific type of geography

Urban

Geographic Location:

resource focuses on specific location

Non-United States, United States

Non-United States: Australasia

Health Impact:

specification of health effect or disease related to climate change exposure

Cardiovascular Effect, Injury, Mental Health/Stress, Morbidity/Mortality, Respiratory Effect, Urologic Effect

Cardiovascular Effect: Heart Attack, Stroke

Population of Concern: A focus of content

Resource Type:

format or standard characteristic of resource

Research Article

Timescale:

time period studied

Time Scale Unspecified